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ABSTRACT

The effect of context on children's attribution of the emotional state (happy to unhappy on a 5-point scale) of various pictures of infants is examined in this paper. Three sets of pictures rated by adults as being of happy, unhappy, or ambiguous infants, were chosen and presented to 40 preschool children. Following rating use training, half of the children viewed the ten unhappy faces first, and half viewed the happy faces first. The children who had seen the unhappy faces first, rated the ambiguous faces as happy, and the other group did the opposite. This paradigm was expanded to examine conformity behavior as a function of race and gender. Three experiments were administered in (inner city) Des Moines schools, and in middle class Iowa City and Davenport, Iowa schools. Each time, the ambiguous infant faces were presented for rating in the context of the child having first been shown a picture of an older white or black boy or girl who was said to have rated the infant picture from happy to sad. It can be seen that how children will react in a conformity situation depends largely on the combination of models, bogus model ratings and infant faces to which they are asked to respond. More importantly, children are affected by race and gender of models, but they also exercise their own judgment in a conformity situation. (Author/KR)

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Occasional Paper Number 14

RACE AND SEX EFFECTS IN THE CONFORMITY BEHAVIOR OF CHILDREN

By

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University of Iowa

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The J. E. Wallace Wallin lectureship was inaugurated at Augustana College on October 18, 1956. The initial lecture was given by Dr. Wallin, a graduate of the class of 1897. This is the fourth published lecture in the series.

Dr. Gordon N. Cantor is a Professor in the Division of Educational Psychology, Measurement, and Statistics at the University of Iowa. He is a leader in the field of developmental psychology and has written extensively on children's likes and dislikes and on their racial awareness.

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Race and Sex Effects in the Conformity Behavior of Children

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Introduction

I deem it an honor to have been asked to give the J. E. Wallace Wallin presentation this year at Augustana and would like to thank those in the College who were responsible for the kind invitation that was extended to me.

As the title of my talk indicates, I will be discussing some work in which I've recently been involved dealing with race and sex effects in children's conformity behavior. I'm not certain how Professor Wallin would have reacted to a presentation on this particular topic. However, a reading of his *The Odyssey of A Psychologist* (Wallin, 1 `55) leads me to suspect he might have responded with sympathetic interest. Throughout his career, he himself clearly appears to have been a nonconformist in certain respects. He helped blaze some new trails in special education and clinical psychology and never hesitated to oppose authority figures when he considered their policies or beliefs to be unfair or misguided.

As a young man not long settled into his first faculty position, I had the opportunity to meet Professor Wallin and to spend some time with him over a period of a few days. This was in the 1950's. The occasion was Dr. Wallin's visit to our then new mental deficiency training program at George Peabody College for Teachers in Nashville. Dr. Wallin, about 80 years old at the time, talked to us mostly about history–specifically, American Psychological Association history. And fascinating talk it was. On the basis of first-hand knowledge, he discussed the names and issues that held center stage in American psychology when that

enterprise was itself a fledgling. His presentations were marked by candor, good humor, and a lucidity that took some of us quite by surprise. The young are not prone to generosity when anticipating the capabilities of very senior citizens. Professor Wallin gave us quite a lesson in this regard—one that took on additional force when he happened to mention in an offhanded manner that not a week earlier he'd been hit by a car while crossing a Memphis street and had been held overnight for observation in a Memphis hospital. Some twenty years ago that octogenarian refusal to be cowed by adversity struck me as impressive. From my current, middle-aged vantage point, I'm inclined to upgrade that characterization to incredible.

The bit of introspection in which I've just engaged illustrates a well-known fact about human judgment behavior—namely, that our judgments are frequently and sometimes profoundly affected by the contexts in which they are made. Some years ago, after returning to Iowa from Peabody, I became interested in seeing if it would be possible to demonstrate this "context" phenomenon in some guise or other in the judgment behavior of preschool-aged children. I'd like to tell you a bit about the study that eventuated from this concern, in part because I hope you'll find the description of the study of some interest, but mainly because it sets the stage for what is to come later in my presentation.

The Context Project

Stimulus selection

The "context" project began with the perusal of numerous paper-back books containing pictures of infants—pictures taken by a talented photographer named Constance Bannister. Some 220 of her pictures were clipped from the books and mounted on 5 x 8 inch cards. A captive group of 19 Iowa graduate students was corralled into serving on an individual basis as raters, their task being to sort the stack of infant pictures into five categories given the designations "very unhappy," "unhappy," "neutral,"

"happy," and "very happy."

The ratings made by the judges were assigned the values 1-5—1 for "very unhappy," 2 for "unhappy," and so on, up to 5 for "very happy." Means and standard deviations were then calculated for the individual pictures.

For the purposes of the context study itself, three basic sets of pictures were selected from the total pool of pictures rated by the adult judges. These included, first, ten pictures with high means and low standard deviations—i.e., pictures with respect to which good agreement existed among the raters to the effect that the babies in question appeared "happy" or "very happy."

The second set included ten pictures with low means and low standard deviations—i.e., pictures with respect to which good agreement existed that the babies in question appeared "unhappy" or "very unhappy."

Finally, the third set, termed the "ambiguous" faces, was composed of photos that elicited relatively diverse judgments from the adult raters. Criteria for inclusion in this set were average ratings of about 3.00 and high standard deviations.

The context study

The subjects in the context study itself were 40 4- and 5-year-old preschoolers. They underwent an elaborate pretraining experience designed to prepare them to make verbal use of the same 5-point scale the adults had employed (with slightly modified labels). Following pretraining, the children were seen individually and were all given the task of rating each of the ten ambiguous pictures. They did so simply by verbalizing the rating word or words of their choice upon seeing the picture to be rated on a given trial. Half the subjects, designated as the "Happy" group, made their ratings within a context that involved exposures to the happy faces. Specifically, a child in the Happy group observed all ten happy faces (5-second exposures), then rated one of the ambiguous faces, then once again saw the ten happy faces, then rated a second ambiguous face, and so on until all ten

ambiguous faces had been rated. The other half of the children were treated in similar fashion, except that they rated the ambiguous pictures within a context that involved exposures to the unhappy faces. They will be designated the "Unhappy" group.

Thus, all subjects rated the same pictures—i.e., the ten ambiguous faces—but some within a context that involved repeated exposures to the happy faces and some within a context that involved repeated exposures to the unhappy faces. Ten different orders of presentation of the ten ambiguous faces were employed so that any tendency for average ratings given later in the sequence to differ from those given earlier in the sequence could not be attributed to the particular ambiguous pictures being rated during those phases of the task. Figure 1 shows the mean ratings given the ten ambiguous photos across the ten rating trials for the Unhappy and Happy groups.

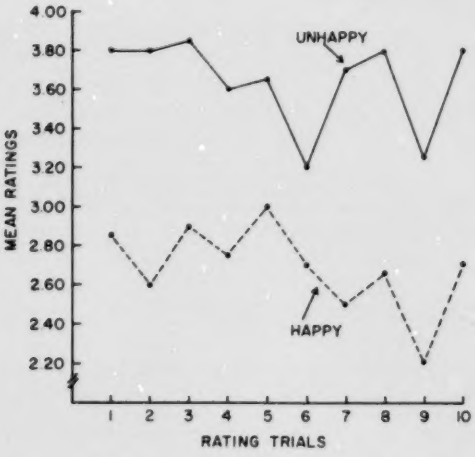

Figure 1. Mean ratings for the two treatment groups across the 10 rating trials (context study).

It is clear from this graph that the children exposed to the unhappy pictures gave the ambiguous pictures higher ratings on the average than did those exposed to the happy pictures. The

overall means for the two groups are 3.64 and 2.68, respectively, a difference that is significant at the .01 level. Surprisingly, the interaction between groups and trials was not significant. Thus, a difference was generated as a result of the initial block of exposures to the unhappy or happy pictures—a difference reflected in the trial-1 values appearing in the graph—and this difference was then sustained (getting neither significantly larger nor smaller) as additional exposures to the unhappy or happy pictures occurred and as subsequent ratings of the remaining ambiguous pictures were made.

The overall outcome revealed in the graph exemplifies what one might reasonably wish to term a "contrast" effect. That is, the ambiguous faces appeared relatively happy in the case of the children who were being exposed to the unhappy pictures, whereas those same ambiguous faces appeared relatively unhappy to those being exposed to the happy pictures.

These results seem to me to be of some interest for two reasons; first, they show that preschool-aged children can be taught to make meaningful use of a 5-point rating scale. And second, they indicate that an empirical effect studied mainly by use of adult subjects making more traditional sorts of psychophysical judgments can be obtained when young children serve as raters and when the judgments made are essentially social in character.

The conformity studies

Being able to alter children's ratings of the ambiguous faces by manipulating the context in which those ratings are made led me to wonder if the same outcome could be achieved by providing the rater with judgments supposedly made by other children—in other words, by using the traditional "conformity" paradigm long employed by social psychologists. Rather than simply attempting to demonstrate conformity effects, however, I became interested in using the ambiguous faces and the conformity paradigm to examine potential race and sex effects in the conformity realm. The questions one might raise in this general context are

numerous. How would black and white children compare in amount of conformity? Would different effects result when black as opposed to white "models" are used (i.e., individuals to whom previously made ratings are attributed)? What about sex of the child doing the rating and sex of the model?

An examination of the available literature on children's conformity behavior provides little basis for predicting what answers might be obtained to these questions. Numerous studies have dealt with the issue of whether or not girls and boys differ in amount of conformity. Although several sets of results point toward the existence of more conformity in girls, this is by no means an inevitable outcome; frequently, no significant sex differences are obtained. The number of studies dealing with sex of the model or with race of the subject or model is too small to permit one to generalize about the roles, if any, played by these variables. With respect to all these variables, even if older studies did provide solid bases for generalizing about their effects, the vast social changes that have occurred in our society in recent years would make the current validity of such older findings suspect.

These considerations led to a series of three experiments on which I shall focus for the remainder of this presentation. I shall try to emphasize major points, to avoid details, and to leave you feeling at least as good about American democracy as you felt upon entering this room tonight—and maybe a bit better.

General approach to studying conformity in children

The general approach used in all three experiments was the same. We administered the task to groups of children, sometimes working with relatively small groups brought to a special room in the school for this purpose, sometimes working with entire, intact classes. On a given trial, we presented one of the ambiguous infant faces and asked the children to rate it on a 5-point unhappy-happy scale; but first we showed a picture of an older child (a "model") and told the subjects how that older child allegedly had already rated the infant face in question. We did this over a series of trials,

using a different ambiguous infant face, a different model, and a different bogus rating attributed to the model on the various trials. The subjects made their ratings by marking an "X" on one of five schematic faces arrayed across the page of a rating booklet, the schematic faces differing in the shape of the mouth (large frown = "very unhappy;" small frown = "kind of unhappy;" straight line = "not happy or unhappy;" small smile = "kind of happy;" and large smile = "very happy").

The counterbalancing demands in such studies are rather formidable. That is, across subgroups of subjects, it is necessary to use different combinations of infant faces, models, and bogus ratings, so that bias owing to the use of particular combinations of these stimuli can be ruled out as a major contributor to the results. I will spare you the details regarding our counterbalancing procedures and merely ask you to accept on faith the assertion that we did a fairly thorough job of counterbalancing.

The Des Moines study

The first of the three experiments was conducted in the inner-city schools of Des Moines in 1974 (Cantor, 1975). The subjects were 192 black and white 9- to 12-year-old children, each racial group equally divided between females and males and virtually all the subjects coming from the lower socio-economic status homes.

The ten ambiguous infant faces previously mentioned served as the target stimuli—i.e., the pictures to be rated by these subjects. On a given trial, the picture of one of ten black or white children (models) was shown to the subject, and the subject was told, "This boy thought the baby you are about to see was '_____' (e.g., 'very unhappy')", the model's picture was then replaced by an infant's (ambiguous target), and the subject was told it was now his or her turn to indicate how happy or unhappy he or she thought the infant appeared to be. It was emphasized that the subject could feel free to use or ignore the model's rating as he or she saw fit.

The first question to be asked of the data was the following: were the children as a total group influenced by the models' ratings? Since a given infant's face was paired up with different bogus ratings under the various counterbalancing conditions that were employed, it was possible to look at the average ratings given a particular infant as a function of the bogus ratings attributed to the models who were alleged to have rated that infant. Preliminary statistical analyses indicated that, in nine out of ten cases, the bogus ratings did have some kind of significant effect on the children's rating. The effect expected, of course, was an increase in the children's ratings as the bogus ratings increased. Follow-up trend analyses indicated that those effects were precisely of the type expected in seven of the nine cases and at least partially of that type in the remaining two instances. Thus, it may be concluded that the children as a total group were indeed influenced by the bogus ratings.

In order to determine if any differential conformity effects occurred related to the various variables that were potentially operative in the situation, deviation scores were computed based on the absolute difference between a given child's rating of a given infant picture and the associated bogus rating of that picture. A high score thus means low conformity, a low score high conformity. The major results stemming from a statistical analysis applied to the deviation score data may be summarized as follows.

(1) The black and white children did not differ significantly in overall amount of conformity manifested by them. The overall mean for blacks was 1.27, that for whites, 1.22.

(2) The children as a total group did not conform differentially to the black and white models. The overall mean deviation from the black models was 1.27, that from the white models, 1.22. This is a nonsignificant difference.

(3) There was a significant difference for the sexes. The overall mean deviation for the girls was 1.19, that for the boys, 1.31. Thus, the girls in this sample of children

conformed significantly more than did the boys.

(4) Although the two racial groups did not differ in overall *amount* of conformity, there was a significant tendency for the black children to conform more to the white than to the black models.

We shall return to a consideration of these results after the remaining two experiments have been discussed.

The Iowa City study

The second of the three conformity experiments was conducted in the schools of Iowa City, also in 1974 (Cantor, 1975). The 176 boys and girls whose data were analyzed in this study differed from the Des Moines sample in the following ways: (a) the age range was narrower—10 to 11 years (as opposed to 9 to 12); (b) only white children were involved; (c) the children were predominantly middle class and resided in a community having a very small number of black residents. For reasons we need not consider here, the number of infant pictures rated by the children in this study was cut from ten to eight, which means that only eight of the models—four black and four white males—were employed.

As before, we first looked to see if the children as a group were influenced by the bogus ratings. They were. Preliminary analyses indicated that, in seven of the eight cases, the bogus ratings did significantly affect the children's ratings in some fashion. In all seven of those instances, subsequently conducted trend analyses indicated that the expected relationships were obtained—i.e., higher bogus ratings tended to produce higher ratings in the children.

Analysis of the deviation scores in this case revealed no significant effects worthy of mention here. Two nonsignificant effects deserve some emphasis.

(1) As before, the children did not differ significantly in the extent to which they conformed to the black and white models. The overall mean deviation scores were 1.32 for the black models and 1.29 for the white models.

(2) In contrast to the earlier study, this one produced no significant sex-of-subject effect. The overall mean deviation scores were 1.28 for the girls and 1.34 for the boys.

Again, we will return to these results following a description of the third and last experiment.

Strug's Davenport study

The final experiment in this series was conducted by Nancy Strug as a master's equivalence study in the Division of Educational Psychology, Measurement, and Statistics at the University of Iowa. Strug also limited herself to white subjects, the children in this instance being 160 5th-graders attending school in Davenport. The age range was 9 to 12 years and the children came from predominantly lower-middle-class and middle-class homes. The data were gathered in the fall of 1976.

The procedures generally followed the pattern set in the two earlier studies, but with the following major exceptions: (a) 16 target infant faces were rated (i.e., six additional faces meeting our criteria for "ambiguity" were added to the ten described earlier); and (b) 16 new models were employed, half of them female. Thus, the models in this study included four pictures representing each of four sex-race groupings.

Because of the large number of infant faces that were rated in this study, the 16 infant pictures were combined into four groups of four infants each in order to look at trends related to bogus ratings. In all four instances, the expected relationship between average ratings and bogus ratings was obtained. In other words, as in the other two studies, the children as a total group were influenced in the expected fashion by the bogus ratings.

The statistical results stemming from the deviation score analyses were somewhat complex, but may be summarized via the following generalizations.

(1) The boys and girls did not differ significantly in amount of conformity. The mean deviation scores were 1.27 for the girls and 1.36 for the boys ($p < .08$).

(2) Overall, the children as a total group conformed significantly more to the black models (mean deviation score = 1.27) than to the white models (mean deviation score = 1.36) ($p < .02$).
(3) However, the latter result must be qualified by indicating that the tendency to conform more to black than to white models actually applies mainly in the case of the female models. While there was a very strong tendency to conform more to the black female than to the white female models, there was a bit of a reversed tendency in the case of the male models; i.e., the children tended to conform somewhat more to the white male than to the black male models.
(4) Looking at the results from another vantage point, the children tended to conform more to the female than to the male models when the models were black and more to the male than to the female models when the models were white.

Overview of the conformity results

Looking at all three conformity studies and all four variables we have been considering here, the major conformity results can be recapitulated as follows.

Sex of subject. All three studies involved an examination of this variable. The Des Moines study, in which lower-socioeconomic-class children served as subjects, did produce a sex difference, the girls conforming more than the boys. The remaining two studies, involving middle-class children, failed to produce a statistically significant sex difference in amount of conformity.

Race of subject. Only the Des Moines study included both black and white children as subjects and no evidence was obtained indicating the two racial groups differed in amount of conformity.

Sex of model. Only Strug's Davenport study included both female and male models. The white children serving as subjects in this study tended to conform more to females than males when

blacks constituted the models and more to males than females when whites were models.

Race of model. All three studies entailed an assessment of this variable. The Des Moines study provided some evidence that the black subjects tended to conform more to white than to black models. The Iowa City study provided no evidence of differential responding to white and black models. Strug's Davenport study showed strong evidence of more conformity to black than to white female models on the part of the white children serving as subjects in this study; however, there was also some tendency for these children to conform more to white than to black male models.

Conclusions

Taken altogether, all four studies show rather conclusively that elementary-school-aged children and even preschoolers (under rather simple circumstances and when highly trained) can make meaningful use of a 5-point rating scale.

The clear evidence for more conformity in girls than in boys in the lower-socioeconomic-class sample (the Des Moines study) and the accompanying lack of such evidence in the middle-class samples (the Iowa City and Davenport studies) suggest that the currently prevalent push toward equality of the sexes is making more of an impression on middle-class than on lower-class children in our society. (This assumes, of course, that a strong tendency to conform on the part of girls reflects feelings in them of inadequacy or lack of status.) It would be interesting to see if corroborating evidence for this socioeconomic-class difference could be obtained using other samples of children and both similar and different research paradigms.

The absence of simple, clear-cut effects involving the race of subject, sex of model, and race of model variables is an outcome that strikes me as encouraging, from an equalitarian standpoint. Indeed, if any of the effects pertinent to these variables can be regarded as at all compelling in terms of strength and consistency, my nominee would be Strug's finding of more conformity on the

part of her white subjects to the black than to the white female models—an outcome that I doubt many individuals would have anticipated.

With regard to the sex of model and race of model variable, it may have occurred to you that the choices made of the particular pictures used to represent female and male and black and white models is a crucial matter. Once these choices have been made, counterbalancing procedures such as those to which I've already alluded can serve to eliminate certain sources of bias in the data. But all the counterbalancing of this sort that one can arrange will not circumvent the following difficult problem: if one subgroup (say, the white, male models) is chosen to create an impression for most viewers of attractiveness and intelligence that is not matched by the remaining choices (i.e., the white female, the black male, and the black female models), then results showing more conformity to the white males could be due to the poor choice of pictures and would not have any general import related to sex of model and race of model effects. I can only indicate that we've spent a lot of hours selecting the photographs employed as models in these studies.

Another question that may have occurred to you pertains to the extent to which our subjects accepted as genuine the bogus ratings attributed to the models. Again, I can only indicate that no child ever questioned us about the authenticity of the models' ratings.

Of all the impressions I have gathered from the experience of participating in the conduct of the conformity studies we've been considering here tonight, one stands out most strongly. It pertains to a consistent statistical effect obtained in all three studies but not mentioned to this point—namely, the occurrence of significant differences associated with the various counterbalancing conditions that were set up in the design of these experiments. I've avoided reference to these effects thus far in order to simplify the presentation. In doing so, I do not think I have generated any distortions. What these effects indicate is that, perhaps more importantly than anything else, how a child will react in our

conformity situation depends to a considerable extent on the particular combination of models, bogus model ratings, and infant faces to which he or she is asked to respond. The evidence indicates clearly that the child *is* affected by the bogus ratings. There is no question about that. But the evidence does not indicate anywhere near as clearly that who the rater is makes a very consistent, substantial difference. This suggests that, to the extent that our subjects *failed* to conform (and note that conformity was *never* close to perfect in our various subgroup averages) and to the extent that amount of conformity differed across counterbalancing conditions, the subjects were not only paying attention to the bogus ratings *but also to the infants' faces,* and to some degree they were exercising *their own judgments* about those infants' states of unhappiness or happiness. That is, whether they as raters were girls or boys and blacks or whites and regardless of the sex and race of the model, they were attending to the infant faces and agreeing with the models more when the matches between infants and bogus ratings were "good" than when they were "bad." And this is as it should be—deal with life by paying attention to the issues and not to one's own or others' memberships in sex and race groupings.

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